



Invasive species

# Common Buckthorn

## Background, Life History

Common buckthorn (*Rhamnus cathartica*) was introduced to North America from Eurasia in the mid-1800s as an ornamental shrub often used for hedges. Common buckthorn grows in full sun and dense shade, allowing it to invade woodlands, savannas, prairies, abandoned fields, pastures and roadsides. While listed as a noxious weed and prohibited in six states, there were no restrictions on common buckthorn in Missouri as of June 2011.

Common buckthorn is a shrub or small tree reaching heights of 10 to 25 feet. The bark is grayish brown with white narrow lines (lenticels), and is rough in texture at maturity. Elongated, dark buds are closely pressed against the twig. The terminal bud is often modified into a spine. Leaves are nearly opposite to opposite, smooth, egg-shaped, rounded at the tip, and finely toothed along the margins. The leaves contain three to five pairs of leaf veins that are curved along the margins of the leaf. Common buckthorn's leaves appear very early in spring and are retained late into autumn.

Flowers are produced in May, with male and female flowers produced on separate plants. Flowers form in clusters with four small, yellowish-green petals. Common buckthorn has small black fruits up to  $\frac{1}{4}$  inch in diameter, which contain three to four seeds. These seeds are readily eaten by birds, but are poisonous to humans. Seeds are primarily spread when eaten by birds during harsh winter months. The severe laxative effect of the fruit causes the seeds to be readily distributed.



Chris Evans, River to River CWMA, Bigwood.org

## Impacts

Common buckthorn readily invades natural communities, including woodlands, savannas and prairies. It produces dense shade, which helps it to outcompete many native herbs. Once established, common buckthorn displaces native shrubs and trees in the mid-layer of the woodland where many bird species nest. It forms an impenetrable layer of vegetation that further degrades wildlife habitat.



Eli Sagon, Flickr.com

Leaves emerge early in spring and remain green through fall, creating dense shade.



Eli Sagon, Flickr.com

Opposite to nearly opposite leaves, with a terminal bud modified into a thorn, help to identify common buckthorn.



Janet and Phil, Flickr.com

Spread by birds, seeds from the dark fruit give rise to new plants.

## Control

Regular prescribed fire will kill seedlings and stems of this species in fire-adapted upland sites with an ample fuel load, including prairies and savannas. However, re-sprouting will occur. For complete control, burning annually or every other year may be required for five to six years or more, followed by prescribed burns every two to three years for long-term management.

If burning is not an option or is not effective, trees may be cut or girdled in combination with herbicide application to prevent re-sprouting from the stump. Cut stumps treated with a 20 to 50 percent solution of triclopyr or glyphosate plus surfactant has proven to be effective. Autumn is the preferred time to cut and stump-treat buckthorn. Green leaves make it easier to find plants and most native vegetation is dormant, reducing injury to non-target vegetation.

Dormant season basal-bark treatment using triclopyr in combination with diesel fuel has been proven effective on trees and re-sprouts that are less than 6 inches in diameter, when applied to a height of 12 to 15 inches. Follow-up control is necessary to control seedlings and re-sprouting that emerge after initial control efforts. Buckthorn seeds remain viable for up to five years in the soil and re-sprouting from cut stems is vigorous.

## Identifying Common Buckthorn

- Leaves emerge in early spring and remain green into the dormant season.
- Opposite, to nearly opposite leaves
- Spine located at end of branch
- Clusters of black fruit in fall and winter

## Native Look-Alikes

Two native species of buckthorn, Carolina buckthorn (*R. caroliniana*) and lance-leaved buckthorn (*R. lanceolata*), occur in Missouri. Common buckthorn can be distinguished from both native species by its opposite or near opposite leaf arrangement, spiny tips on its twigs, and leaves with rounded tips.

## Alternative Native Plants

Gray dogwood (*Cornus racemosa*)  
American hazelnut (*Corylus americana*)  
Blackhaw (*Viburnum prunifolium*)

## For Additional Information

[files.dnr.state.mn.us/natural\\_resources/invasives/terrestrialplants/woodyplants/buckthorn\\_what\\_you\\_should\\_know.pdf](http://files.dnr.state.mn.us/natural_resources/invasives/terrestrialplants/woodyplants/buckthorn_what_you_should_know.pdf)  
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[www.MissouriConservation.org](http://www.MissouriConservation.org)

For more information or to report a population, contact your local Missouri Department of Conservation office, e-mail [WildlifeDivision@mdc.mo.gov](mailto:WildlifeDivision@mdc.mo.gov), or write:

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